



**MANUFACTURING**  
**Sample North Dakota Career Cluster Plan of Study**  
[www.nd.gov/cte](http://www.nd.gov/cte) • [www.careerclusters.org](http://www.careerclusters.org)

Name \_\_\_\_\_  
 School \_\_\_\_\_  
 Date \_\_\_\_\_



SAMPLE OCCUPATIONS RELATING TO THIS CAREER CLUSTER	
Pathway	Occupations
PRODUCTION	Welder • Machinist & Tool Maker • Pipefitter,
MANUFACTURING PROCESS PRODUCTION DEVELOPMENT	Mechanical Engineer • Structural Engineer • Industrial Technology/Mechanic • Design Engineer • Industrial Engineer • Power Generating & Reactor Plant Operator • Purchasing Agent • Manufacturing Engineer • Precision Inspector/Tester/Grader
MAINTENANCE, INSTALLATION & REPAIR	Boilermaker • Communication Systems Installer/Repairer • Industrial Facilities Manager • Instrument Calibration & Repairer • Maintenance Repairer • Millwright • Plumber/Pipe Fitter/Steam Fitter
QUALITY ASSURANCE	Calibration Technician • Inspector • Quality Control Technician
LOGISTICS & INVENTORY CONTROL	Dispatcher • Freight/Stock/Material Mover • Industrial Truck & Tractor Operator • Material Handler • Material Mover • Traffic/Shipping/Receiving Clerk
HEALTH, SAFETY & ENVIRONMENTAL ASSURANCE	Environmental Engineer • Health & Safety Representative • Safety Coordinator • Safety Team Leader • Safety Technician

SUGGESTED COURSE OF HIGH SCHOOL STUDY						
It is suggested that students consider appropriate dual credit, articulation, or advanced placement opportunities for postsecondary credit.						
English (four units required to graduate)	Math (two units required to graduate)	Science (two units required to graduate)	Social Studies (three units required to graduate)	Physical Education (one unit required to graduate)	North Dakota Career & Technical Education and Other Electives (one unit of foreign or Native American language, fine arts, or career and technical education required to graduate)	Additional Suggested Learning Opportunities
<input type="checkbox"/> English I <input type="checkbox"/> English II <input type="checkbox"/> English III <input type="checkbox"/> English IV	<input type="checkbox"/> Algebra I <input type="checkbox"/> Geometry <input type="checkbox"/> Algebra II <input type="checkbox"/> Trigonometry <input type="checkbox"/> Statistics	<input type="checkbox"/> Physical Science <input type="checkbox"/> Biology <input type="checkbox"/> Physics	<input type="checkbox"/> World History <input type="checkbox"/> U.S. History <input type="checkbox"/> Government <input type="checkbox"/> Sociology <input type="checkbox"/> Economics	<input type="checkbox"/> Physical Education <input type="checkbox"/> Health	<input type="checkbox"/> Introduction to Manufacturing <input type="checkbox"/> Welding I <input type="checkbox"/> Welding II <input type="checkbox"/> Technological Systems <input type="checkbox"/> Foundations of Technology <input type="checkbox"/> Engineering Technology <input type="checkbox"/> Independent Living <input type="checkbox"/> Computer Applications <input type="checkbox"/> Business Communication <input type="checkbox"/> Foreign Language	<b>School-Based:</b> <input type="checkbox"/> SkillsUSA <input type="checkbox"/> TSA <input type="checkbox"/> Career Research <input type="checkbox"/> Cooperative Education <input type="checkbox"/> Internship <input type="checkbox"/> Job Shadowing <input type="checkbox"/> Service Learning Project <b>Community-Based:</b> <input type="checkbox"/> Mentorship <input type="checkbox"/> Volunteer <input type="checkbox"/> Part-time Employment

SAMPLE NORTH DAKOTA POSTSECONDARY PROGRAMS RELATED TO THIS CAREER CLUSTER			
Pathway	Associate Degree or Less	Bachelors Degree	Masters Degree or More
PRODUCTION	<input type="checkbox"/> Welding <input type="checkbox"/> Machinist & Tool Maker		
MANUFACTURING PROCESS PRODUCTION DEVELOPMENT	<input type="checkbox"/> Industrial Technology & Tool Maker <input type="checkbox"/> Electrical Transmission Systems Technology <input type="checkbox"/> Power Plant/Process Plant Operations	<input type="checkbox"/> Industrial Technology/Mechanic	<input type="checkbox"/> Industrial Technology/Mechanic
MAINTENANCE, INSTALLATION & REPAIR	<input type="checkbox"/> Mechanical Systems <input type="checkbox"/> Plumbing <input type="checkbox"/> Building Maintenance <input type="checkbox"/> Welding <input type="checkbox"/> Machinist & Tool Maker <input type="checkbox"/> Electrical Technology <input type="checkbox"/> HVAC/R	<input type="checkbox"/> Industrial Technology/Mechanic <input type="checkbox"/> Environmental Design	<input type="checkbox"/> Industrial Technology/Mechanic
QUALITY ASSURANCE	<input type="checkbox"/> Machinist & Tool Maker		
LOGISTICS & INVENTORY CONTROL	<input type="checkbox"/> Truck Driving	<input type="checkbox"/> Transportation & Logistics	<input type="checkbox"/> Transportation & Logistics
HEALTH, SAFETY & ENVIRONMENTAL ASSURANCE	<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Emergency Management	